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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/857,557	06/04/2001	Rebecca Cahoon	BB-1297	5031

7590 03/04/2005  
Lori Y Beardell  
E I du Pont de Nemours And Company  
Legal-Patents  
Wilmington, DE 19898

EXAMINER

GEBREYESUS, KAGNEW H

ART UNIT PAPER NUMBER

1652

DATE MAILED: 03/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/857,557

Applicant(s)

CAHOON ET AL.

Examiner

Kagnev H Gebreyesus

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 04 June 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-24 are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Election/Restrictions*

1. Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

- Group 1. Claim(s) 1-3, 5-10, 18, 19, 20-24 are drawn to nucleic acid sequences encoding a polypeptide of at least 200 amino acids that has at least 93% identity compared to a polypeptide selected from the group consisting of a 1-deoxy-D-xylulose 5-phosphate reductoisomerase polypeptide, vectors and method of expression.
- Group 2. Claim 11 is drawn to a composition consisting of a polypeptide of at least 200 amino acids that has at least 93% identity compared to a polypeptide selected from the group consisting of a 1-deoxy-D-xylulose 5-phosphate reductoisomerase polypeptide of SEQ ID NO: 2, 4, 6, 8, 10, 12, 14, 16, 18, and 20.
- Group 3. Claim 12, 13 and 14 are drawn to a method of selecting an isolated polynucleotide sequence selected from SEQ ID NO: 1, 3, 5, 7, 9, 11, 13, 15, 17 and 19 encoding at least 200 amino acid residues that affects the level of expression of a 1-deoxy-D-xylulose 5-phosphate reductoisomerase polypeptide when introduced into a host cell.

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Group 4. Claim 15 is drawn to a method of amplifying a sequence selected from SEQ ID NO: 1, 3, 5, 7, 9, 11, 13, 15, 17 and 19.

Group 5. Claim 16 is drawn to a hybridization method for screening a cDNA or genomic library to identify a polynucleotide sequence encoding a 1-deoxy-D-xylulose 5-phosphate reductoisomerase gene.

Group 6. Claim 17 is drawn to a method of evaluating a compound for its ability to inhibit the activity of isopentenyl diphosphate biosynthetic enzyme.

For each of the inventions in groups 1-6 above, restriction to one of the following is also required under 35 USC 121 and 372.

Therefor, in addition to the above groups, election is required of one of inventions 1-6 and one of inventions (a)- (j):

- a. A nucleic acid of SEQ ID NO: 1 or a protein of SEQ ID NO: 2.
- b. A nucleic acid of SEQ ID NO: 3 or a protein of SEQ ID NO: 4.
- c. A nucleic acid of SEQ ID NO: 5 or a protein of SEQ ID NO: 6.
- d. A nucleic acid of SEQ ID NO: 7 or a protein of SEQ ID NO: 8.
- e. A nucleic acid of SEQ ID NO: 9 or a protein of SEQ ID NO: 10.
- f. A nucleic acid of SEQ ID NO: 11 or a protein of SEQ ID NO: 12.
- g. A nucleic acid of SEQ ID NO: 13 or a protein of SEQ ID NO: 14.
- h. A nucleic acid of SEQ ID NO: 15 or a protein of SEQ ID NO: 16.
- i. A nucleic acid of SEQ ID NO: 17 or a protein of SEQ ID NO: 18.
- j. A nucleic acid of SEQ ID NO: 19 or a protein of SEQ ID NO: 20.

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The inventions listed above in groups 1(a)-6(j) do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT rule 13.2, they lack the same or corresponding special technical features for the following reasons: The technical feature shared by the inventions of group 1-5 is the isolation and use of polynucleotide sequences encoding 1-deoxy-D-xylulose 5-phosphate reductoisomerase from various sources in plants and microbial cells. However Takahashi, S., et al. (1998) Proc. Natl. Acad. Sci. USA 95:9879-9884) disclose a 1-deoxy-D-xylulose 5-phosphate reductoisomerase from *E. coli* thus the only shared technical feature of inventions in group 1-5 is not a special technical feature and lacks unity of invention.

Furthermore claim 17 of the present application (group 6) departs from the above technical feature in that the invention of group 6 endeavors to solve a different technical problem.

Kuzuyama et al. disclose a specific inhibitor of 1-deoxy-D-xylulose 5-phosphate reductoisomerase. Therefore groups 1-5 and group 6 do not share a single technical feature and thus lacks unity of invention.

Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventor is no longer an inventor of at least one claim remaining in the application. Any amendment to inventorship must be accompanied by a petition under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17 (i).


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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kagnew H Gebreyesus whose telephone number is 571-272-2937. The examiner can normally be reached on 8:30am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Achutamurthy ponnathapura can be reached on 571-272-0928. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kagnew Gebreyesus PhD.

  
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